

August 1, 2000

W. Clark Smith  
Supervisor, Air Quality Permitting Section  
Department of Environmental Quality  
P.O. Box 98922  
Lincoln, NE 68509-8922

Dear Mr. Smith:

This letter is in response to your letter dated June 22, 2000 in which you requested guidance about the interpretation of ambient air under the Prevention of Significant Deterioration program. The specific situation you described is that a source has purchased adjacent agricultural land. A three-strand barb-wire fence will enclose the land. The source will also post "no trespassing" signs around the perimeter and at all entrances. All the entrances to the land will be gated and locked. The source plans to enter into a "License Agreement" with a farmer that would:

- 1) rent the land to the farmer;
- 2) allow the farmer to use the land for the sole purpose of agricultural production (farming);
- 3) restrict access to the property for the sole purpose of farming and to the farmer and those persons under the farmer's supervision for the sole purpose of engaging in farming; and
- 4) the farmer is required to maintain a secure point of access to and from the property by keeping the gate locked at all times except when entering and exiting and by not acting or failing to act in any manner that may jeopardize the secured access to the property.

First, your letter did not state if there is a public road between the facility and the adjacent land that the source purchased. As you know, the location of any public road would be considered ambient air.

Second, ambient air is defined in 40 CFR 50.1(e) as that portion of the atmosphere, external to buildings, to which the general public has access. The farmer and others under his supervision are the general public since they are not employees or contractors of the adjacent source. Therefore, the farm land would be considered ambient air. This understanding has been used in similar determinations by the EPA. For example, a water district planned to build a sludge incinerator on a large tract of fenced land they owned. They planned to lease office space on the property to private parties but still control access to the property. The EPA determined this was ambient air.

Third, we are concerned that a three-strand barb-wire fence and “no trespassing” signs may not be adequate to keep the general public off the land. Three-strand barb-wire fences are easy to cross and signs could be ignored. This is an issue that would require more consideration if the land is not leased to a farmer.

Contact Ward Burns of my staff at (913) 551-7960 if you have any questions.

Sincerely,

Donald C. Toensing  
Chief  
Air Permitting and Compliance Branch

BURNS/APCO:TTB/7842:07/24/00:DISK8-letter4.wpd

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

OCT 17 1989

MEMORANDUM

SUBJECT: Ambient Air

FROM: Robert D. Bauman, Chief  
SO2/Particulate Matter Programs Branch (MD-15)

TO: Gerald Fontenot, Chief  
Air Programs Branch, Region VI (6T-A)

My staff and I have discussed the ambient air case outlined in the August 24, 1989 memorandum from Jim Yarbrough of your staff to Doug Grano of my staff. Specifically, Region VI and the Texas Air Control Board propose that prevention of significant deterioration (PSD) modeling for Mitsubishi Industries can discount the contribution of a background source to the predicted concentration as follows:

1. Assume Mitsubishi and background plants B and C.
2. Mitsubishi and plants B and C are modeled and total concentrations are estimated.
3. Where a receptor is located on plant B's nonambient air property, the contribution from plant B (only) may be subtracted from the total concentration.

This situation is similar to a case raised to OAQPS's attention in 1987 by Region V. Guidance on this case was provided by OAQPS to Region V in a memorandum dated April 30, 1987 (attached). That guidance is consistent with your proposed approach and, therefore, we agree with your position.

However, the State should be advised that, when modeling Mitsubishi, all receptors off Mitsubishi property are in ambient air and that the ambient air policy does not allow sources to excessively pollute their neighbors. Note that a background source could, in the future, change their operation and make portions of their property accessible to the public. Care should be taken to avoid situations that could result in undue exposure to excessive concentrations and which could result in adverse public health impacts.

In response to your position on issuance of the permit where Mitsubishi makes a significant contribution to predicted violations of either the national ambient air quality standards (NAAQS) or PSD increments, policy contained in the July 5, 1988 memorandum from OAQPS to Region 3 should be

2

applied (attached). For a new or existing NAAQS violation, the permit may be granted under specific conditions. However, for any increment violation for which the proposed source has a significant impact, the permit should not be approved unless the increment violation is corrected prior to operation of the proposed source.

If you have any questions regarding this memorandum, please call Doug



Grano at FTS-629-5255.

Attachments

cc: Air Branch Chief, Regions IV, VII-X  
SO2 Contacts

bcc: John Calcagni  
Dan deRoeck  
Gary McCutchen  
Joe Tikvart  
Dean Wilson  
Jim Yarbrough  
Regional Modeling Contact, Regions I-X

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

July 5, 1988

MEMORANDUM

SUBJECT: Air Quality Analysis for Prevention of  
Significant Deterioration (PSD)

FROM: Gerald A. Emison, Director /s/  
Office of Air Quality Planning and Standards (MD-10)

TO: Thomas J. Maslany, Director  
Air Management Division (3AM00)

Your memorandum of May 9, 1988, pointed out that two different procedures are currently being used by the Regional Offices in certain PSD permit analyses. The inconsistency involves the question of how to interpret dispersion modeling results to determine whether a source will cause or contribute to a new or existing violation of a national ambient air quality standard (NAAQS) or PSD increment. This memorandum serves to resolve the inconsistency by reaffirming previous Office of Air Quality Planning and Standards guidance provided in a December 1980 policy memorandum (attached).

As you know, the regulation for PSD stipulate that approval to construct cannot be granted to a proposed new major source or major modification if it would cause or contribute to a NAAQS or increment violation. Historically, the Environmental Protection Agency's (EPA's) position has been that a PSD source will not be considered to cause or contribute to a predicted NAAQS or increment violation if the source's estimated air quality impact is insignificant (i.e., at or below defined de minimis levels). In recent years, two approaches have been used to determine if a source would "significantly" (40 CFR 51.165(b) defines significant) cause or contribute to a violation. The first is where a proposed source would automatically be considered or contribute to any modeled violation that would occur within its impact area. In this approach, the source's impact is modeled and a closed circle is drawn around the source, with a radius equal to the farthest distance from the source at which a significant impact is projected. If, upon consideration of both proposed and existing emissions contributions, modeling predicts a violation of either a NAAQS or an increment anywhere within this impact area, the source (as proposed) would not be granted a permit. The permit would be denied, even if the source's impact was not significant at the predicted site of the violation during the violation period. You have indicated that this is the approach you currently use.

The second approach similarly projects air quality concentrations throughout the proposed source's impact area, but does not automatically assume that the proposed source would cause or contribute to a predicted NAAQS or increment violation. Instead, the analysis is carried one step further in the event that a modeled violation is predicted. The additional step determines whether the emissions from the proposed source will have a significant ambient impact at the point of the modeled NAAQS or increment

violation when the violation is predicted to occur. If it can be demonstrated that the proposed source's impact is not "significant" in a spatial and temporal sense, then the source may receive a PSD permit. This approach is currently being used by Region V and several other Regional Offices, and is the approach that you recommend as the standard approach for completing the PSD air quality analysis.

In discussing this matter with members of my staff from the Source Receptor Analysis Branch (SRAB) and the Noncriteria Pollutant Programs Branch (NPPB), it appears that different guidance has been provided, resulting in the two separate approaches just summarized. We have examined the history and precedents which have been set concerning this issue. I also understand that this issue was discussed extensively at the May 17-20, 1988 Regional Office/State Modelers Workshop, and that a consensus favored the approach being used by Region V and several other Regions. Based on this input, as well as your own recommendation, I believe the most appropriate course of action to follow is the second approach which considers the significant impact of the source in a way that is spatially and temporally consistent with the predicted violations.

By following the second approach, three possible outcomes could occur:

(a) First, dispersion modeling may show that no violation of a NAAQS or PSD increment will occur in the impact area of the proposed source. In this case, a permit may be issued and no further action is required.

(b) Second, a modeled violation of a NAAQS or PSD increment may be predicted within the impact area, but, upon further analysis, it is determined that the proposed source will not have a significant impact (i.e., will not be above de minimis levels) at the point and time of the modeled violation. When this occurs, the proposed source may be issued a permit (even when a new violation would result from its insignificant impact), but the State must also take the appropriate steps to substantiate the NAAQS or increment violation and begin to correct it through the State implementation plan (SIP). The EPA Regional Offices' role in this process should be to establish with the State agency a timetable for further analysis and/or corrective action leading to a SIP revision, where necessary. Additionally, the Regional Office should seriously consider a notice of SIP deficiency, especially if the State does not provide a schedule in a timely manner.

(c) Finally, the analysis may predict that a NAAQS or increment violation will occur in the impact area and that the proposed source will have a significant impact on the violation. Accordingly, the proposed source is considered to cause, or contribute to, the violation and cannot be issued a permit without further control or offsets. For a new or existing NAAQS violation, offsets sufficient to compensate for the source's significant impact must be obtained pursuant to an approved State offset program consistent with SIP requirements under 40 CFR 51.165(b). Where the source is contributing to an existing violation, the required offsets may not correct the violation. Such existing violations must be addressed in the same manner as described in (b) above. However, for any increment violation (new or existing) for which the proposed source has a significant impact, the permit should not be approved unless the increment violation is corrected prior to operation of the proposed source (see 43 FR p.26401, June 19, 1978; and 45 FR p.52678, August 7, 1980).

Your memorandum also states that other air quality analysis issues exist within the NSR program which need consistent national guidance. You recommend a more coordinated effort between SRAB and NPPB to review outstanding NSR issues. We agree; however, rather than establishing a



formal work group as you propose, we are optimistic that the formal participation of representative of the NSR program in the Modeling Clearinghouse will help resolve coordination problems. Earlier in the year, the Modeling Clearinghouse was officially expanded to include representation from the NPPB to coordinate PSD/NSR issues which have a modeling component.

I trust that this is responsive to the concerns which you have raised. By copy of this memorandum, we are also responding to a Region V request for clarification on the same issue (memorandum from Steve Rothblatt to Joe Tikvart/Ed Lillis, date February 18, 1988).

Should you have any further questions concerning this response, please feel free to contact Gary McCutchen, Chief, New Source Review Section, at FTS 629-5592.

Attachment

cc: Air Division Directors, Regions I-X  
Air Branch Chiefs, Regions I-X  
D. Clay  
J. Calcagni  
J. Tikvart  
E. Lillis  
G. McCutchen  
D. deRoeck

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United States Environmental Protection Agency  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

April 30, 1987

MEMORANDUM

SUBJECT: Ambient Air

FROM: G. T. Helms, Chief /s/  
Control Programs Operations Branch (MD-15)

TO: Steve Rothblatt, Chief  
Air Branch, Region V

My staff and I have discussed the five ambient air cases which you submitted for our review on January 16, 1987. The following comments are our interpretation of the ambient air policy. However, this memorandum is not a discussion of the technical issues involved in the placement of receptors for modeling.

Our comments on each of the cases follow:

Case 1 (Dakota County, MN): This case involves two noncontiguous pieces of fenced property owned by the same source, divided by a public road. We agree that the road is clearly ambient air and that both fenced pieces of plant property are not.

Case 2 (Warrick County, IN): This case involves two large sources on both sides of the Ohio River. We agree that receptors

should be located over the river since this is a public waterway, not controlled by the sources. We also agree that the river does indeed form a sufficient natural boundary/barrier and that fencing is not necessary, since the policy requires a fence or other physical barrier. However, some conditions must be met. The riverbank must be clearly posted and regularly patrolled by plant security. It must be very clear that the area is not public. Any areas where there is any question--i.e., grassy areas, etc.--should be fenced and marked, even if there is a very remote possibility that the public would attempt to use this property.

However, we also feel that current policy requires that receptors should be placed in ALCOA and SIGECO property for modeling the contribution of each source's emissions to the other's ambient air. Thus, ALCOA's property--regardless of whether it is fenced--is still "ambient air" in relation to SIGECO's emissions and vice-versa.

Case 3 (Wayne County, MI): This case involves the air over the Detroit River, the Rouge River and the Short-cut Canal. We agree that the air over all three of these is ambient air, since none of the companies owns them or controls public access to them. Note, however, that one source's property--regardless of whether it is fenced--is the "ambient air" relative to another source's emissions.

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Case 4 (Cuyahoga County, OH): This case involves LTV Steel's iron and steel mill located on both sides of the Cuyahoga River.

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We do not feel that LTV Steel "controls" the river traffic in that area sufficiently to exclude the public from the river, whether it be recreational or industrial traffic. The fact that there is little or no recreational traffic in that area is not sufficient to say that all river traffic there is LTV traffic. The public also includes other industrial users of the river that are not associated with LTV.

It is difficult to tell from the map whether the railroad line is a through line or not. If the railroad yard serves only the plant then it would not be ambient but the railroad entrance to the plant would have to be clearly marked and patrolled. However, if the line is a through line then that would be ambient air. We would need additional information to make a final determination.

The unfenced river boundaries should meet the same criteria as in Case 2 above.

Case 5 (involves the placement of receptors on another source's fenced property): As mentioned above in Case 2, we feel that present policy does require that receptors be placed over another source's property to measure the contribution of the outside source to its neighbor's ambient air. To reiterate, Plant A's property is considered "ambient air" in relation to Plant B's emissions.

I hope that these comments are helpful to you and your staff. This memorandum was also reviewed by the Office of General Counsel.



cc: S. Schneeberg  
P. Wyckoff  
R. Rhoads  
D. Stonefield  
Air Branch Chiefs, Region I-X

October 17, 1989

MEMORANDUM

SUBJECT: Ambient Air

FROM: Robert D. Bauman, Chief  
SO2/Particulate Matter Programs Branch (MD-15)

TO: Gerald Fontenot, Chief  
Air Programs Branch, Region VI (6T-A)

My staff and I have discussed the ambient air case outlined in the August 24, 1989 memorandum from Jim Yarbrough of your staff to Doug Grano of my staff. Specifically, Region VI and the Texas Air Control Board propose that prevention of significant deterioration (PSD) modeling for Mitsubishi Industries can discount the contribution of a background source to the predicted concentration as follows:

1. Assume Mitsubishi and background plants B and C.
2. Mitsubishi and plants B and C are modeled and total concentrations are estimated.
3. Where a receptor is located on plant B's nonambient air property, the contribution from plant B (only) may be subtracted from the total concentration.

This situation is similar to a case raised to OAQPS's attention in 1987 by Region V. Guidance on this case was provided by OAQPS to Region V in a memorandum dated April 30, 1987 (attached). That guidance is consistent with your proposed approach and, therefore, we agree with your position.

However, the State should be advised that, when modeling Mitsubishi, all receptors off Mitsubishi property are in ambient air and that the ambient air policy does not allow sources to excessively pollute their neighbors. Note that a background source could, in the future, change their operation and make portions of their property accessible to the public. Care should be taken to avoid situations that could result in undue exposure to excessive concentrations and which could result in adverse public health impacts.

In response to your position on issuance of the permit where Mitsubishi makes a significant contribution to predicted violations of either the national ambient air quality standards (NAAQS) or PSD increments, policy contained in the July 5, 1988 memorandum from OAQPS to Region 3 should be applied (attached). For a new or existing NAAQS violation, the permit may be granted under specific conditions. However, for any increment violation for which the proposed source has a significant impact, the permit should not be approved unless the increment violation is corrected prior to operation of

the proposed source.

If you have any questions regarding this memorandum, please call Doug Grano at FTS-629-5255.

Attachments

cc: Air Branch Chief, Regions I-V, VII-X  
SO2 Contacts

bcc: John Calcagni  
Dan deRoeck  
Gary McCutchen  
Joe Tikvart  
Dean Wilson  
Jim Yarbrough  
Regional Modeling Contact, Regions I-X

(Attachments may be found in generic/recurring issues section on the BBS as AMA#2 under Ambient Air and SAQ#1 under Significant Air Quality Impacts)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

21 SEP 1987

MEMORANDUM

SUBJECT: Ambient Air Definition

FROM: G.T. Helms, Chief  
Control Programs Operations Branch

TO: Bruce P. Miller, Chief  
Air Programs Branch, Region IV

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We are in receipt of your memorandum of August 17, 1987, regarding ambient air. In response to your request, we have considered the need for clarification of the Environmental Protection Agency's (EPA) policy on prevention of significant deterioration (PSD) increment consumption on rooftops and whether the May 16, 1985, Regional Meteorologists memo needs to be revised to avoid ambiguous guidance.

With respect to PSD increments and rooftops, EPA's policy is contained in Joseph Cannon's memo of June 11, 1984. As you correctly pointed out, PSD increment consumption does not apply at the tops of buildings. With respect to the Regional Meteorologists memo, that memo does not attempt to define ambient air beyond what is currently contained in the Code of Federal Regulations and clarified by Senator Randolph in 1980. The meteorologists memo addresses technical modeling concerns and states that for modeling purposes, receptors will be placed everywhere the general public has access outside of contiguous plant property, e.g., rooftops. Subsequent decisions on use of the pollutant concentrations calculated at the receptors is determined by the definition of ambient air and EPA policy and guidance, such as the Cannon memo. Thus, we conclude that the meteorologists memo contains clear guidance on the placement of receptors when modeling and the Cannon memo defines rooftops as not ambient air when calculating increment consumption.

I hope this information is helpful to you.

cc: Joseph Tikvart  
Richard Rhoads  
Darryl Tyler



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

27 JUL 1987

MEMORANDUM

SUBJECT: Ambient Air Issue from New Jersey Department of Environmental Protection (DEP)

FROM: G.T. Helms, Chief  
Control Programs Operations Branch

TO: William S. Baker, Chief  
Air Branch, Region II

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In response to your request, have reviewed your position with respect to a determination of ambient air applicability in the vicinity of the proposed EF Kenilworth, Inc. (EFKI) cogeneration unit in Union County, New Jersey. As we understand it, EFKI will build and operate the plant on property leased (long-term lease) from Schering Corporation. As we see it the EFKI operator will be completely separate from the Schering operation and except for the land owned and operated by a different Company. The fact that EFKI has entered into a contract to supply electricity/steam to Schering is not really relevant to the ambient air issue.

We agree with your position that all property outside of the property leased and controlled by EFKI would be considered ambient air. The word "controlled" is emphasized since nothing is said in either your memorandums or New Jersey's letter to Region II about what, if any, fence or other physical barrier would be installed to prevent public access to the EFKI leased property. If such physical barrier is not erected, then all land including the leased site would have to be considered as ambient air.

If you have any questions, please contact Sharon Reinders, at 629-5255.

cc: D. Tyler  
J. Tikvart  
D. Wilson  
G. McCutchen



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION II

DATE: Jun 19, 1987

SUBJECT: Ambient Air Issue from New Jersey Department of Environmental Protection

FROM: William S. Baker, Chief  
Air Programs Branch

TO: G.T. Helms, Chief  
Control Programs operation Branch (MD-15)

Attached is a copy of a letter directed to us by the State of New Jersey's Department of Environmental Protection. It requests an EPA determination on what constitutes "ambient air" for a particular air permit application. Kevin Doering explained this issue to Dean Wilson of the Modeling Clearinghouse on June 2 and provided him with our preliminary determination. We believe that, because the cogeneration facility could operate independently and will provide power to other sources outside of the Schering Corporation, property outside of its property line should be reviewed for ambient impact.

We would appreciate your review and concurrence or comment. We would like to be able to respond to Dr. Berkowitz within two weeks if possible. Thank you for your help.

Attachment

State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF ENVIRONMENTAL QUALITY  
CN 027, TRENTON, N.J. 08825

May 29, 1987

JORGE H. BERKOWITZ, Ph.D.  
Director

(609) 292 - 5383

Conrad Simon, Director  
Air and Waste Management Division  
USEPA Region II  
26 Federal Plaza  
New York, NY 10278

Dear Mr. Simon:

We are reviewing an air pollution control permit application for the proposed Kenilworth, Inc. (EFKI) cogeneration system at the Schering corporation facility in Kenilworth, Union County. Schering has entered into an agreement with EFKI to have EFKI supply the electrical energy and process steam for Schering's manufacturing plant through a cogeneration system to be constructed on property leased by EFKI from Schering (see attached). The leased property is within the property line of Schering's Kenilworth facility. The cogeneration system is to be built, owned and operated by EFKI.

We request EPA's interpretation of "ambient air" (40 CFR 50.1(e)) with regard to the portion of the Schering property that is not leased to EFKI. In our air quality modeling analyses of the emissions from the EFKI facility, should we consider the property line to be the boundary of the leased property or the boundary of the Schering plant?

Please have EPA's determination forwarded in writing to William O'Sullivan (609-984-6721) at your earliest convenience. The resolution of this issue will remove a major question in the review of this application.

Thank you.

Sincerely yours,

Jorge H. Berkowitz, Ph.D.  
Director

JHB/TJ/df  
Attachment

c: H. Wortreich  
W. O'Sullivan  
J. Elston  
R. Dyba  
R. Craig

EBASCO SERVICES INCORPORATED  
160 Chubb Avenue, Lyndhurst, NJ 07071  
(201)460-1900

Air Quality Evaluation  
Approach and Modelling Protocol  
For The Kenilworth Cogeneration Facility

The following discussion presents an approach to the air quality evaluation of a proposed cogeneration facility (the "Facility") to be built, owned and operated in Kenilworth, New Jersey by EF Kenilworth, Inc. ("EFKI"), a wholly owned subsidiary of Energy Factors, Incorporated ("EFI"), a California corporation engaged in the business of developing, owning and operating electric and thermal energy production facilities throughout the United States.

The Facility is to be constructed on a site (the "Site") which has been leased by EFKI from Schering Corporation ("Schering"), a wholly-owned subsidiary of Schering-Plough Corporation ("Schering-Plough") for a term of fourteen years (plus two renewal terms of ten years each) pursuant to a Site Lease between Schering and EFKI dated as of December 10, 1985.

EFKI has entered into a Turnkey Construction Contract with Ebasco Constructors Inc., dated as of July 29, 1986, for the construction of the Facility, which is projected to be completed on or prior to June 1988.

The Facility will produce electrical energy and process steam. EFKI has entered into a power purchase agreement (the "PPA") with Jersey Central Power and Light Company ("JCP&L") dated as of May 20, 1986, for the sale by EFKI of electrical energy from the Facility to JCP&L, which energy would be wheeled from the Site to JCP&L by Public Service Electric & Gas Company ("PSE&G"). EFKI has also entered into an Energy Services Agreement (the "ESA") with Schering dated as of December 10, 1985, pursuant to which EFKI will supply Schering with Schering's electrical energy and process steam requirements at its pharmaceutical manufacturing plant located adjacent to the Facility Site.

Due to the favorable economics and energy conservation aspects of the cogeneration process, EFKI will be able to sell electrical and thermal energy to Schering at prices which should enable Schering to realize significant savings in its aggregate energy expenditures. In addition, because Schering will rely on EFKI for its principal steam supply, Schering will cease routine operation of its boilers 3, 4 and 5 (the "Boilers"). (It is anticipated that the air emissions resulting from the operation of the Facility will be significantly lower than those for which the Boilers are currently permitted.) The Boilers will be maintained in a standby status to provide standby or supplemental process steam to Schering if required.

## 1.0 PROJECT DESCRIPTION

### A. General

The Facility will produce 25,068 kWe (net) when supplying 40,000 lbs/hr of 135 PSIG steam. The natural gas fired combined cycle cogeneration plant has backup capability to operate on number 2 distillate fuel oil during natural gas supply curtailment. The Gas Turbine Generator (GTG) package will be powered by a GE Model LM2500-33 turbine, that is water injected for NOx control. The Heat Recovery Steam Generator (HRSG) is a non-fired 3 pressure level unit capable of a maximum generation of approximately 70,000 lb/hr of steam. Steam from the HRSG will operate a Steam Turbine Generator (STG). The STG will be a single pressure, multi-value, multi-stage, automatic extraction condensing unit, providing a minimum process extraction of approximately 17,000 lb/hr. Both the GTG and the STG will be equipped with 13.8 KV generators.

- The Facility has a nameplate rating of 29,500 kW while extracting a minimum flow of 17,000 lb/hr of steam.





United States Environmental Protection Agency  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

April 30, 1987

MEMORANDUM

SUBJECT: Ambient Air

FROM: G. T. Helms, Chief /s/  
Control Programs Operations Branch (MD-15)

TO: Steve Rothblatt, Chief  
Air Branch, Region V

My staff and I have discussed the five ambient air cases which you submitted for our review on January 16, 1987. The following comments are our interpretation of the ambient air policy. However, this memorandum is not a discussion of the technical issues involved in the placement of receptors for modeling.

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Our comments on each of the cases follow:

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Case 1 (Dakota County, MN): This case involves two noncontiguous pieces of fenced property owned by the same source, divided by a public road. We agree that the road is clearly ambient air and that both fenced pieces of plant property are not.

Case 2 (Warrick County, IN): This case involves two large sources on both sides of the Ohio River. We agree that receptors should be located over the river since this is a public waterway, not controlled by the sources. We also agree that the river does indeed form a sufficient natural boundary/barrier and that fencing is not necessary, since the policy requires a fence or other physical barrier. However, some conditions must be met. The riverbank must be clearly posted and regularly patrolled by plant security. It must be very clear that the area is not public. Any areas where there is any question--i.e., grassy areas, etc.--should be fenced and marked, even if there is a very remote possibility that the public would attempt to use this property.

However, we also feel that current policy requires that receptors should be placed in ALCOA and SIGECO property for modeling the contribution of each source's emissions to the other's ambient air. Thus, ALCOA's property--regardless of whether it is fenced--is still "ambient air" in relation to SIGECO's emissions and vice-versa.

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Case 4 (Cuyahoga County, OH): This case involves LTV Steel's iron and steel mill located on both sides of the Cuyahoga River.



We do not feel that LTV Steel "controls" the river traffic in that area sufficiently to exclude the public from the river, whether it be recreational or industrial traffic. The fact that there is little or no recreational traffic in that area is not sufficient to say that all river traffic there is LTV traffic. The public also includes other industrial users of the river that are not associated with LTV.

It is difficult to tell from the map whether the railroad line is a through line or not. If the railroad yard serves only the plant then it would not be ambient but the railroad entrance to the plant would have to be clearly marked and patrolled. However, if the line is a through line then that would be ambient air. We would need additional information to make a final determination.

The unfenced river boundaries should meet the same criteria as in Case 2 above.

Case 5 (involves the placement of receptors on another source's fenced property): As mentioned above in Case 2, we feel that present policy does require that receptors be placed over another source's property to measure the contribution of the outside source to its neighbor's ambient air. To reiterate, Plant A's property is considered "ambient air" in relation to Plant B's emissions.

I hope that these comments are helpful to you and your staff. This memorandum was also reviewed by the Office of General Counsel.

cc: S. Schneeberg  
P. Wyckoff  
R. Rhoads  
D. Stonefield  
Air Branch Chiefs, Region I-X



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United States Environmental Protection Agency  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

April 30, 1987

MEMORANDUM

SUBJECT: Ambient Air

FROM: G. T. Helms, Chief /s/  
Controlled Programs Operations Branch (MD-15)

TO: Bruce Miller, Chief  
Air Programs Branch, Region IV

My staff and I have discussed the five situations involving the definition of ambient air that you sent on December 18, 1986. The following comments represent our interpretation of the ambient air policy. However, this memorandum is not a discussion of the technical issues involved in the placement of receptors for modeling. Our comments on each scenario follow:

Scenario One: We agree with you that the road and the unfenced property are ambient air and could be locations for the controlling receptor.

Scenario Two: We agree with your determination in this case also.

Scenario Three: We agree with you that the road is ambient air. However, Area B is not ambient air; it is land owned or controlled by the company and to which public access is precluded by a fence or other physical boundary.

Scenario Four: We do not think that any of the barriers mentioned here are sufficient to preclude public access so as to allow the source to dispense with a fence. An example of an unfenced boundary that would qualify is a property line along a river that is clearly posted and regularly patrolled by security guards. Any area, such as grassy areas that might even remotely be used by the public, would have to be fenced even in this situation. We would not think that a drainage ditch would meet these criteria.

Scenario Five: Both fenced pieces of plant property, even though noncontiguous, would not be considered ambient air (see Scenario Three). The road, of course, would be ambient air. Again, ownership and/or control of the property and public access are the keys to ambient air determination.

I hope that these comments are helpful to you and your staff. This memorandum was also reviewed by the Office of General Counsel. Please call me if you have any comments.

cc: S. Schneeberg  
P. Wyckoff  
R. Rhoads  
D. Stonefield  
Air Branch Chiefs, Regions I-X

(Incoming Request Follows)

United States Environmental Protection Agency

DATE: December 18, 1986  
SUBJECT: EPA Definition of Ambient Air  
FROM: Bruce P. Miller, Chief /s/  
Air Programs Branch  
Air, Pesticides & Toxics Management Division  
TO: Tom Helms, Chief  
Control Programs Operation Branch (MD-15)

SUMMARY

The North Carolina Division of Environmental Management has asked for a clarification of ambient air in regards to a certain source located in North Carolina. The Regional Meteorologist's memorandum dated May 16, 1985, provides that for modeling purposes receptors are located everywhere outside of the continuous property of a plant to which the public is precluded due to a fence or other effective physical barriers. Attached are a number of scenarios for the source where we request a response on whether the receptors at certain locations are considered ambient air and whether the calculated modeling result at these receptors are to be considered in establishing an emission limit if one or more of these receptors is controlling. The Region IV opinion for each scenario is provided.

Most of the scenarios we believe are dealt with adequately in the May 16, 1985 memorandum, however, there is a major concern on our part about how to interpret the modeling results in scenario numbers three, four and five.

Please provide us with a written response by January 27, 1987. Please contact me or Mr. Lewis Nagler of my staff at FTS 257-2864 if you require additional information.

Enclosure (1)

cc: Joseph Tikvart (MD-14)  
RTP, NC

NORTH CAROLINA AMBIENT AIR SCENARIOS

Scenario One

The plant property is divided by a public road. The portion of the property on which a point source is located (Area A) is completely fenced. The property on the other side of the road (Area B) is unfenced.

The Region IV position is that the road and the unfenced property are ambient air and if air quality modeling locates the controlling receptor in Area B, the emission limit will be



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determined based on the calculated concentration at that receptor.

#### Scenario Two

This scenario is the same as scenario one except that Area B is fenced except for the property along the public road.

The Region IV position is identical to that provided in scenario one.

#### Scenario Three

This scenario is the same as scenario one except that all of Area B is fenced.

The Region IV position is that the road is ambient air and that Area B should have receptors located there for modeling purposes. We also believe that since Area B is not continuous to that property that is needed for plant operation, even though fenced, Area B is ambient air. We further believe that if a receptor located in Area B is found to contain the controlling receptor for establishing the source emission rate then that receptor value must be used.

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There is a concern on our part that the May 16, 1985 memorandum could be interpreted to allow the Air Quality Management officials to discard the calculated concentrations within Area B. We believe a clarification of the ambient air policy on this point is needed.

#### Scenario Four

Area A is fenced except for the property along the public road.

The Region IV position is that Area A is ambient air unless the source can demonstrate that the public is precluded to entry by an effective physical barrier. However, since a physical barrier other than a fence is subject to various interpretation, we are seeking advise on what we can accept as meeting that requirement. For instance, a drainage ditch alongside a road with no shoulder for parking or the use of "NO PARKING" signs could be considered an effective barrier. As you can see, the concept can be quite subjective and we require additional guidance in this area.

For this actual situation, would you concur or non concur that no parking signs in association with no shoulder to park upon constitute a physical barrier? The Region IV position is that this situation does not constitute an effective physical barrier, but the addition of a drainage ditch would constitute an effective barrier.

#### Scenario Five (Hypothetical)

The entire plant is fenced. As a result of the county or state's power of eminent domain, a road is built through the property. Does the area that is no longer contiguous to the plant operation area lose its exemption from the ambient air definition even if the source fences off the area taken by the road?

The Region IV position is that the area should be grandfathered in that situation.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

January 21, 1986

MEMORANDUM

SUBJECT: Receptor Locations In Ambient Air

FROM: Joseph A. Tikvart, Chief /s/  
Source Receptor Analysis Branch (MD-14)

TO: Regional Modeling Contacts, Regions I-X

As the attachments indicate, OAQPS has reinforced the position that the ambient air policy has been clearly defined and does not require review. The Regional Meteorologists' memorandum (dated 5/16/85) harmonizes modeling procedures with this long-standing policy. In future Model Clearinghouse actions we will use that memorandum to ensure consistent Regional implementation of that policy and to resolve questions about pollutant concentrations at receptor locations where the public has access.

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Attachments

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cc: R. Campbell  
T. Helms  
R. Rhoads  
D. Tyler  
D. Wilson

(Attachments Following)

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

January 22, 1986

William F. O'Keefe, Vice President  
American Petroleum Institute  
1220 L Street Northwest  
Washington, D. C. 20005

Dear Mr. O'Keefe:

Mr. Elkins has asked me to respond to your letter of December 18, 1985, in which you perceive a change in our policy with regard to the location of receptors for air quality dispersion modeling.

Page 1

Let me assure you there is no change in our long-standing national policy with regard to the definition of ambient air. That policy is based on 40 CFR Part 50.1 (e) which defines ambient air as "... that portion of the atmosphere, external to buildings, to which the general public has access." A letter dated December 19, 1980, from Douglas Costle to Senator Jennings Randolph, reaffirmed and clarified this definition by stating the exemption from ambient air is available only for the atmosphere over land owned or controlled by the source and to which public access is precluded by a fence or other physical barriers. A copy of Mr. Costle's letter is enclosed. The codified definition plus the 1980 clarification essentially constitute the national policy on ambient air.

The Regional Meteorologists' memorandum to which you refer does not imply any change in this national policy and simply harmonizes modeling procedures with our long-standing policy. It is intended to ensure consistent Regional implementation of that policy and to dispel any questions about pollutant concentrations at locations where the general public has access.

Thus, since the Regional Meteorologists' memorandum does not imply any change in our policy, I do not believe there is any need for policy review at this time.

Sincerely,

/s/

Gerald A. Emison  
Director  
Office of Air Quality Planning  
and Standards

Enclosure

cc: W. Quanstrom  
E. Elkins

Attachment

December 19, 1980

Honorable Jennings Randolph  
Chairman, Committee on Environment  
and Public Works  
United States Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

Thank you for your letter of October 23, 1980 expressing your continued interest in the Agency's definition of "ambient air." During the time since David Hawkins, my Assistant Administrator for Air, Noise, and Radiation, met with you last February, the definition has been extensively reviewed and debated.

After reviewing the issues and alternatives, I have determined that no change from the existing policy is necessary. We are retaining the policy that the exemption from ambient air is available only for the atmosphere over land owned or controlled by the source and to which public access is precluded by a fence or other physical barriers. EPA will continue to review individual situations on a case-by-case basis to ensure that the public is adequately protected and that there is no attempt by sources to circumvent the requirement of Section 123 of the Clean Air Act.

I hope that this has been responsive to your needs.

Sincerely yours,

/s/ Douglas M. Costle

Douglas M. Costle

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V

DATE: May 16, 1985

SUBJECT: Ambient Air

FROM: Regional Meteorologists, Regions I-X

TO: Joseph Tikvart, Chief (MD-14)  
Source Receptor Analysis Branch

At the recent Regional Meteorologists' meeting in Dallas, we identified inconsistencies among the Regional Offices on what areas are to be considered as ambient air for regulatory purposes. The existing inconsistency on ambient air is due to both the lack of clear National guidance and the allowed Regional Office discretion. A standardized approach is necessary both to satisfy the consistency requirements of Section 301 of the Clean Air Act and in order for those responsible for Regional modeling activities to provide effective and efficient review of and guidance on modeling analysis. Accordingly, the Regional Meteorologists have decided to address the problem at the working level through the use of a consistent modeling approach.

40 CRF Part 50.1(e) defines ambient air as ". . . that portion of the atmosphere, external to buildings, to which the general public has access." A letter dated December 19, 1980, from Douglas Costle to Senator Jennings Randolph, clarified this definition by stating that the exemption from ambient air is available only for the atmosphere over land owned or controlled by the source and to which public access

is precluded by a fence or other physical barriers." The codified definition plus the 1980 clarification essentially constitute the National policy on ambient air.

The Regional Meteorologists propose that for modeling purposes the air everywhere outside of contiguous plant property to which public access is precluded by a fence or other effective physical barrier should be considered in locating receptors. Specifically, for stationary source modeling, receptors should be placed anywhere outside inaccessible plant property. For example, receptors should be included over bodies of water, over unfenced plant property, on buildings, over roadways, and over property owned by other sources. For mobile source modeling (i.e., CO modeling), receptors should continue to be sited in accordance with Volume 9 of the "Guidelines for Air Quality Maintenance Planning".

Unless you disagree with our position, we will require new actions with modeling analyses submitted to EPA after January 1, 1986, to conform to this modeling policy. Please note that all 10 Regional Meteorologists have reviewed and concur with this memo.

cc: Regional Meteorologist, Regions I-X





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United States Environmental Protection Agency  
Washington, D. C. 20460

June 11, 1984

MEMORANDUM

SUBJECT: Applicability of PSD Increments to Building Rooftops

FROM: Joseph A. Cannon /s/  
Assistant Administrator  
for Air and Radiation

TO: Charles R. Jeter  
Regional Administrator, Region IV

The following is in response to your letter of November 10, 1983, concerning issues which you felt required review for national consistency relating to a new source review for an Alabama Power facility in downtown Birmingham, Alabama.

On September 29, 1983, your office informed the State of Alabama that a source's compliance with the PSD increments must be measured on the tops of buildings, as well as at ground level. Since then we have discussed the question extensively among ourselves and with representatives of the State of Alabama and the company. For the reasons that follow, I do not believe we are in a position to definitively assert that PSD increments apply to rooftops without further information as to the consequences for the PSD system as a whole. Accordingly, I recommend that we inform Alabama that we do not now require that compliance with PSD increments be measured at the tops of buildings. A State may, of course, adopt such an approach if it so desires.

Between 1970 and 1983, it appears to have been general EPA practice to determine compliance with both NAAQS and PSD increments at ground level, not at roof level. On March 18, 1983, however, Kathleen Bennett, in a letter to the State of New York, determined that the "national ambient air quality standards are designed to protect the public health and welfare and apply to all ambient air which does include the rooftops and balconies of buildings accessible by the public."

I believe this conclusion was correct. Apartment balconies, rooftop restaurants, and the like present a potential for human exposure that the primary ambient air quality standards should be interpreted to address.

Given this conclusion, one could argue, based on the text of the relevant regulations and the Clean Air Act, that the PSD increments apply wherever the NAAQS apply, and that both must apply throughout the "ambient air." However, the PSD system, unlike the NAAQS system, does not aim at achieving one single goal. Rather it represents a balance struck first by Congress between a given level of protection against degradation and a given potential for economic growth. It appears that the calculations on which that balancing judgment was based all assumed that PSD increments would be measured at ground level.

A number of state officials who are now administering PSD have argued to me that by measuring PSD increments on rooftops as well

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as at ground level, EPA would make the PSD system appreciably more stringent than Congress contemplated. Although major urban areas are all Class II areas, this approach, it is argued, could result in constraints on growth comparable to those that apply in Class I areas - national parks and wilderness areas. Such an outcome would not, it is argued, be consistent with Congressional intent.

In these circumstances, I think that preserving the status quo is particularly advisable because:

Ø It is likely that Alabama did not contemplate adopting a "rooftops" approach to PSD when it took over the PSD program. That expectation, though not decisive, does provide some reason not to change the situation without formal rulemaking.

Ø The consequences of a erroneous decision to consider increment consumption on rooftops will be more severe than those of an erroneous decision not to consider them. The adoption of such an approach will present at least a procedural, and, probably a substantive obstacle to development in urban areas, while in its absence air quality will still be protected by the NAAQS, by the PSD increments supplied at ground level, and by the other aspects of PSD review such as Best Available Control Technology.

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Therefore, I have concluded that since the State of Alabama has authority under an approved implementation plan for administering the PSD program within Alabama, it is their responsibility to apply this principle of maintaining the status quo to this case, taking all the relevant facts into account.

Please advise the State of Alabama of the Agency's position on these points as our response to the issues which they raised in meetings with both of us.

cc: A. Alm  
P. Angell  
T. Devine  
G. Emison  
W. Pedersen  
P. Wyckoff  
S. Meiburg